

**REMARKS**

Claims 1, 2, 4-9, 11, 12, and 14-19 stand rejected under 35 U.S.C. 102(e) as being anticipated by Wada et al. (US 6,532,202), claims 3 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al. in view of Revelli, Jr. (US 5,276,745), and claims 10 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wada et al. in view of Ueda et al. (US 5,481,530). Applicants respectfully traverse these rejections on grounds that the combination of applied references, whether taken singly or combined, does not teach or suggest the features recited by at least independent claims 1 and 11.

During the interview, the rejections of claims 1 and 11 were discussed. The Examiners agreed that Wada et al. fails to teach the features in independent claims 1 and 11. Furthermore, the Examiners agreed that either a 2nd Non-Final Office Action or a Notice of Allowance will be issued after the receipt of a formal response to the Final Office Action.

The Final Office Action alleges that it is well known in the art that diffraction gratings have a groove-based structure. The Final Office Action further alleges that Col. 18, Lines 49-57 and the Abstract of Wada et al. discloses a diffraction grating. Applicants respectfully assert that this allegation is moot because the present invention does not claim or disclose a diffraction grating. Applicants respectfully assert that the fine structure in the claimed invention is not a diffraction grating. In particular, the fine structure in the claimed invention has a periodic pattern wherein the pitch of the periodic concave-convex fine structure is shorter than the operating wavelength. Applicants respectfully assert that a first order and higher order diffractions can occur only when the pitch of the periodic structure is longer than the operating

wavelength.

Even if “diffraction grating” is broadly interpreted to include a zero-th order diffraction, Applicants respectfully assert that Wada et al. is completely silent as to “diffraction grating,” in contrast to the Examiner’s allegation. Wada et al. merely discloses that the apparatus can reach the diffraction limit. (Col. 18, Line 56 of Wada et al.) Applicants respectfully assert that “diffraction limit” has **absolutely nothing** to do with “diffraction grating.” Applicants respectfully assert that one of ordinary skill in the art knows that the smallest area that light can be focused into is called “diffraction limit.” The Examiner tries to associate this concept of “diffraction limit,” into a “grating structure,” merely because of the overlap in the term “diffraction.” Thus, Applicants respectfully assert that the reasoning in the Final Office Action is not based on any sound technical and scientific reasoning. Accordingly, Applicants respectfully traverse the Official Notice taken in the Final Office Action.

Furthermore, in contrast to Applicants’ claimed invention, Wada et al. merely discloses an antireflective film having a *planar* structure, which does not and can not have a finestructure nor a concave-convex structure for proper operation. The Final Office Action alleges the antireflective films 112-115 have saw-tooth structures as shown in FIG. 14. Applicants respectfully disagree.

The saw-tooth shapes shown in FIG. 14 are merely crosshatchings in order to distinguish layers 112-115 from other layers and are not to be construed as the actual shape of the layers 112-115. Thus, the geometric shapes represented in FIG. 14 have no meaning relative to the surface shapes of the layers 112-115. Specifically, FIG. 14 shows that layers 22 and 24 are made

of the same material (denoted as left tilted shade), layers 21 and 27 are made of the same material (denoted as right tilted shade), layers 110 and 111 are made of the same material (denoted as vertical shade), and layers 112-115 are made of the same material (denoted as saw-tooth shade). In column 21, line 60 of Wada, an equation (Eq. 2) for refractive index matching is introduced. By choosing a material that has a refractive index  $n_2$  according to Eq. 2, the refractive index between the antireflective film (any one of layers 112-115) and the surrounding layers are matched. One of ordinary skill in the art would immediately know that the antireflective film (any one of layers 112-115) *must* be planar in order for the condition in Eq. 2 to be valid. The presence of any finestructure or a concave-convex structure in the antireflective film would lead to a condition where the boundary conditions are not suitable for Eq. 2. Accordingly, Applicants respectfully assert that Wada et al. fails to teach or suggest the combination of features recited by at least independent claims 1 and 11. In addition, Applicants respectfully assert that Revelli, Jr. can not remedy the deficiencies of Wada et al.

For the above reasons, Applicants respectfully assert that the rejections under 35 U.S.C. §§ 102(b) and 103(a) should be withdrawn because none of the applied prior art references, whether taken individually or in combination, teach or suggest the novel combination of features clearly recited in independent claims 1, 11 and hence dependent claims 2-10 and 12-20.

**CONCLUSION**


In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and the timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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